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TITLE

EIGHTEENTH ANNUAL SURVEY OF THE MOUNTAIN PINE BEETLE INFESTATION
ON THE COEUR D'ALENE NATIONAL FOREST
1946

Forest Insect Laboratory

Coeur d'Alene, Idaho

Eighteenth Annual Survey of the Mountain Pine Beetle Infestation on
the Coeur d'Alene National Forest

1946

Survey of the Coeur d'Alene National Forest was conducted during two periods in 1946. The first period was in June at which time an extensive survey was made in order to determine what units must be covered more intensively in the late summer and fall. This double coverage was made in order that limited funds and personnel might be used more effectively during the period of final survey. Certain units were also eliminated from the preliminary survey as there was enough infestation known to be present to require intensive coverage later in the season. At the end of the report the areas covered by intensive and extensive surveys are shown under those headings. Conditions on individual units are discussed in detail on the following pages, first the areas extensively examined and then those intensively surveyed.

Units Preliminarily Surveyed in Early Summer.

<u>Honeysuckle Unit.</u>		<u>Acreage - 5,320</u>	
Acres of sample	Green Stand		Attacks
	White Pine	Mixed	
23	219	867	3
Attacks per acre		.13	
Percent of stand killed		1.35	
Infested trees on unit		692	

There is only a light infestation in this unit which is confined to the dry, southern exposures of Flora Miller Hill.

<u>Cathcart Creek Unit.</u>		<u>Acreage - 3,200</u>	
Acres of sample	Green Stand		Attacks
	White Pine	Mixed	
24	146	831	0
Attacks per acre		0	
Percent of stand killed		0	
Infested trees on unit		0	

The white pine in this unit is young and fast growing, with no infestation showing from sample plots examined in this area.

Laverne Creek Unit.Acreage - 2,560

Acres of sample	Green Stand		Attacks
	White Pine	Mixed	
26	378	1020	3
Attacks per acre		.11	
Percent of stand killed		.79	
Infested trees on unit		281	

The light infestation found on this unit is a slight decrease over that found in 1942.

Bumblebee UnitAcreage - 3,040

Acres of sample	Green Stand		Attacks
	White Pine	Mixed	
32	- - - - -	- - - - -	8
Attacks per acre		.25	
Percent of stand killed		-----	
Infested trees on unit		760	

Inclement weather, and a small crew with a large area to examine, made it impossible to make a complete examination in this unit. Therefore, no green stand data was taken. The infestation in this unit is confined mainly to the trees along the right-of-way of an access road.

Upper Cougar Unit.Acreage - 3,700

Acres of sample	Green Stand		Attacks
	White Pine	Mixed	
58	1113	1555	9
Attacks per acre		.15	
Percent of stand killed		.81	
Infested trees on unit		555	

This unit shows an infestation of .15 trees per acre. However, this figure may be too high as one sample strip includes a group of 14 red tops and this was the only group seen on the whole area.

Lower Cougar Unit.Acreage - 3,600

Acres of sample	Green Stand		Attacks
	White Pine	Mixed	
65	-----		11
Attacks per acre		.16	
Percent of stand killer		--	
Infested trees on unit		576	

The infestation in this unit is mainly in the lower end of the drainage and evenly scattered throughout that area.

Upper Flat Creek Unit.Acreage - 3,680

Acres of sample	Green Stand		Attacks
	White Pine	Mixed	
23.5	178	1437	4
Attacks per acre		.17	
Percent of stand killed		2.19	
Infested trees on unit		625	

The white pine in this unit are very large, averaging 27 inches D.B.H. with deterioration indicated by dying in the tops.

Lower Flat Creek Unit.Acreage - 4,120

Acres of sample	Green Stand		Attacks
	White Pine	Mixed	
31	496	1269	4
Attacks per acre		.129	
Percent of stand killed		.86	
Infested trees killed on unit		531	

The light infestation in this unit is concentrated on the ridge on the south side of Flat Creek, approximately 1/2 mile from the main river.

Bennet Creek Unit.Acreage - 580

Acres of sample	Green Stand		Attacks
	White Pine	Mixed	
9.5	165	304	0
Attacks per acre		0	
Percent of stand killed		0	
Infested trees on unit		0	

No infestation was found on sample plots and only two red tops were noted in the unit.

Brett - Miner Creek Unit.Acreage - 1,550

Acres of sample	Green Stand		Attacks
	White Pine	Mixed	
12	372	738	1
Attacks per acre		.083	
Percent of stand killed		.27	
Infested trees on unit		418	

There is a very light infestation scattered throughout this unit. The white pine stand is young and healthy.

The mountain pine beetle is helping in the process of thinning an overstocked stand.

Rock City UnitAcreage - 1,600

Acres of sample	Green Stand		Attacks
	White Pine	Mixed	
16	(No green stand data taken)		1
Attacks per acre		.06	
Percent of stand killed		-----	
Infested trees on unit		99	

There is no serious infestation in this unit. The area is lightly timbered with a stand of 120 year age class.

Eagle Creek Unit.Acreage - 4,820

Acres of sample	Green Stand		Attacks
	White Pine	Mixed	
42	-----	-----	8
Attacks per acre		.19	
Percent of stand killed		-----	
Infested trees on unit		915	

This unit consists of the white pine stands on the East and West Eagle Creeks.

The infestation in these areas were found to be in small, 10" D.B.H. trees that had been scarred by logging operations.

Hawkseye Unit.Acreage 8,780

Acres of sample	Green Stand		Attacks
	White Pine	Mixed	
25	319	1031	0
Attacks per acre		0	
Percent of stand killed		0	
Infested trees on unit		0	

This unit includes the mature white pine stands in the Shoshone Creek drainage. While no attacked trees were recorded for the 25 acres of sample examined, a few infested trees were seen on this drainage. However, the infestation is too light to cause concern.

Cabin Creek Unit.Acreage - 7,000

Acres of sample	Green Stand		Attacks
	White Pine	Mixed	
109.5	174	216	0
Attacks per acre		0	
Percent of stand killed		0	
Infested trees on unit		0	

The white pine in this unit is young and fast growing. No infestation was found on sample plots but a few 1946 attacks were noted in small, 10 inch D.B.H., trees in the upper end of Cabin Creek.

Units Intensively Surveyed in Late Summer

Omaha Creek Unit - Acreage 1480

A heavy infestation exists on this unit with the greatest concentration in one-half mile of blow-down on the flat at the lower end of Omaha Creek. Most of the windfalls in this area are attacked by the mountain pine beetle. Attacked trees in the rest of the area occur usually as single trees, occasionally in twos and threes. Data for the unit is as follows:

<u>Omaha Creek Unit</u>		<u>Acreage - 1,480</u>	
Acres of sample	Green Stand		Attacks
	White Pine	Mixed	
25	573	809	14
Attacks per acre		.56	
Percent of stand infested		2.4	
Infested trees on unit		829	

Indian Creek Unit - Acreages 1420 & 240

This unit has been divided into two acreages one of 1420 acres which includes all the area shown as white pine timber type in Indian and Barrymore Creeks. The second, of about 240 acres, lies just above the indicated end of timber type on the south side of Indian Creek.

Area 1 - Acreage 1420

Infestation on Barrymore Creek is concentrated in the creek bottom. On Indian Creek it is located on the sidehills at the upper end of the unit. A blowdown has occurred in this area and 26 windfalls were found along two miles of the creek bottom. The data from this main area is as follows:

<u>Indian Creek Unit.</u>		<u>Acreage - 1,420</u>	
Acres of sample	Green Stand		Attacks
	White Pine	Mixed	
19.6	460	598	8
Attacks per acre		.408	
Percent of stand killed		1.7	
Infested trees on unit		579	

In most cases the brood in the attacked trees ranged from light to medium in concentration.

The smaller acreage of heavier infestation is about 240 acres in extent and located on the ridge between the second south fork and the main Indian Creek in parts of sections 6, 7, and 12. The timber in this area is primarily second growth with an occasional mature tree along the creek bottom. A blowdown about 1/2 mile long and a maximum of eight chains wide extends along the Indian Creek side of the ridge and near the creek bottom. Data for this area is as follows:

Area 2 - Acreage 240

Acres of sample	Green Stand		Attacks
	White Pine	Mixed	
18	593	499	24
Attacks per acre		1.33	
Percent of stand killed		3.9	
Infested trees on area		320	

The data for the two areas gives an estimated 899 infested trees on the Indian - Barrymore Creek drainages.

Can Creek Unit - Acreage 1760

Acres of sample	Green Stand		Attacks
	White Pine	Mixed	
93	2,072	2,934	31
Attacks per acre		.33	
Percent of stand killed		1.5	
Infested trees on unit		570	

Not only is the loss for 1946 enough to cause alarm but that of the recent past has amounted to nearly 12 percent of the remaining western white pine.

On an area of about 50 acres in the southeast part of the southwest 1/4 of section 35 there is a heavy infestation. Most of it is concentrated in a narrow strip about 21 chains long and 8 chains in maximum width. On this limited area strip data revealed 1.76 attacked trees per acre. The 28 infested trees estimated to be on this unit combined with 570 for the main area gives a grand total of 658 trees.

Over all but the 50 acre area, the white pine averages 12 inches D.B.H., is about 150 years of age, and in a mature condition. On the 50 acre area the stand averages about 16 inches in D.B.H.

Except on the 50 acre area the infestation is of scattered trees intermixed with others dying from an unrecognized cause or causes. Most of the latter are on dry, open sites.

West Fork Unit - Acreage 3960

This unit is the most lightly infested of any on the Steamboat Creek drainage and according to the survey foreman is not of a serious nature at this time. The heaviest concentration is around Steamboat Lookout with lighter infestation in the Boston Brook area and in the upper end of the West Fork. The data secured is as follows:

<u>West Fork Unit.</u>		<u>Acreage - 3,960</u>	
Acres of sample	Green Stand		Attacks
	White Pine	Mixed	
55	1573	2318	11
Attacks per acre		.20	
Percent of stand killed		.7	
Infested trees on unit		792	

Forks Cabin Unit - Acreage 3720

A serious infestation is present on this unit with the heaviest concentration of it on the dry sites around Steamboat Lookout, the east side of Long Tom Creek in section 23 and the general area from the mouth of the East Fork of Steamboat Creek to Cabin Creek. The Attacked trees occur over the whole unit as single infested trees or as groups of 4 and 5. Brood varies from light to heavy. The data for the unit is as follows:

<u>Forks Cabin Unit.</u>		<u>Acreage - 3,720</u>	
Acres of sample	Green Stand		Attacks
	White Pine	Mixed	
103	2973	4221	70
Attacks per acre		.68	
Percent of stand infested		2.3	
Infested trees on unit		2530	

Clay Creek Unit - Acreage 2320

This unit has an infestation concentrated at the lower end of Clay Creek. The survey covered about two percent of the area and yielded

the following data.

<u>Clay Creek Unit.</u>		<u>Acreage - 2,320</u>	
Acres of Sample	Green Stand		Attacks
	White Pine	Mixed	
45.6	1783	1939	13
Attacks per acre		.263	
Percent of stand killed		.7	
Infested trees on unit		610	

The heavy stocking of this area and probable weakening of trees due to competition may be responsible, in part, for the infestation being as heavy as it is.

DISCUSSION

Conditions beyond the control of the survey crew made it impossible for them to obtain an adequate sample of infestation in the higher areas of the Downey and Yellow Dog Creek drainages. Survey data obtained applies only to the more heavily infested areas at lower elevation. For that reason it has been necessary to limit the area to which the data applies. No data is available for the infestation at the higher elevations.

Downey Unit - Total Acreage 4160

Acreage to which data applies - 2720

Attacked trees per acre	1.67
Percent of stand killed	3.64
Estimated infested trees on 2720 acre area	4534

The amount of sample secured, even for the above 2720 acres, was insufficient (2.6 percent) for an adequate sample and was concentrated in the portions of the area known to be more heavily infested in the past. For that reason it is believed the estimate may be high but is submitted as being the only information available.

Yellow Dog Unit - Total Acreage 4120

Acreage to which data
applies - 1880

Attacked trees per acre	2.39
Percent of stand killed	4.37
Estimated infested trees on 1880 acre area	4500

This unit is another on which the coverage has been inadequate (1.7 percent) for a reliable sample. To the writer the estimate of attacked trees seems decidedly too high and in that belief those who conducted the survey, concur.

A heavy infestation was noted in the areas adjoining that portion of the unit where control had been conducted in the spring of 1946. On the treated area, however, infested trees were few. Ridges, south-west, south and southeast-facing slopes are showing the heaviest losses but from observations it is known that infestations is general over much of the eastern part of the unit.

Yellow Dog River Unit.

Acreage - 2,140

Attacked trees per acre	.25
Percent of stand killed	.53
Estimated infested trees on unit	535

Only 1.3 percent of the acreage of this area was covered by survey, too small an amount to furnish a reliable sample. However, on the basis of that data and general knowledge of the area the estimate is not believed to be seriously in error.

Sissons Unit.

Acreage - 4,700

Attacked trees per acre	.598
Percent of stand killer	1.48
Estimated infested trees on unit	2811

In June of 1946 an extensive survey was made to determine the advisability of an intensive examination in the fall. The extensive survey indicated an infestation of about .4 trees per acre or 1880 trees for the unit.

In September of 1946 slightly over 1 percent of the unit was covered in survey and found to show the amount of infestation indicated. It is believed more trees were attacked on this unit subsequent to the time the survey was conducted and for that reason the estimate of attacked trees would be conservative.

Data for all units is shown in the tabulation which follows.

TABLE I
COEUR D'ALENE NATIONAL FOREST
1946

UNIT	ACRES	INFESTED TREES PER ACRE	INFESTED TREES ON UNIT	% OF STAND KILLED
<u>Preliminary Survey</u>				
1. Honeysuckle	5,320	.13	692	1.35
2. Cathcart Creek	3,200	0	0	0
3. Laverne Creek	2,560	.11	281	.79
4. Bumblebee	3,040	.25	760	.0
5. Upper Cougar	3,700	.15	555	.81
6. Lower Cougar	3,600	.16	576	0
7. Upper Flat Creek	3,620	.17	625	2.19
8. Lower Flat Creek	4,120	.129	531	.86
9. Bennet Creek	580	0	0	0
10. Brett-Minor	1,550	.083	418	.27
11. Rock City	1,600	.062	99	0
12. Eagle	4,820	.19	915	0
13. Hawkseye	8,780	0	0	0
14. Cabin Creek	7,000	0	0	0
15. Omaha Creek	1,480	0	0	0
16. Indian Creek	1,420	0	0	0
17. Can Creek	1,760	.17	299	.70
18. West Fork	3,960	.23	910	0
19. Clay Creek	2,720	.62	1,438	0
20. Sissons	4,700	.40	1,880	.5
	<u>69,190</u>		<u>9,979</u> - 1945 ADDED	
<u>Intensive Survey</u>				
15. Omaha Creek	1,480	.66	976	2.82
16. Indian Creek	1,660	.535	888	3.06
17. Can Creek	1,760	.374	658	3.64
18. West Fork	3,960	.219	867	.81
19. Clay Creek	2,720	.26	603	.92
20. Sissons	4,700	.60	2,820	.651
21. Downey Creek	2,720	1.67	4,515	2.70
22. Yellow Dog	1,880	2.39	4,500	3.07
23. Yellow Dog River	2,140	.25	535	.31
24. Forks-Cabin	3,720	.72	2,678	2.20
25. Falls Creek	160	1.2	192	4.7
	<u>26,500</u>		<u>19,241</u>	